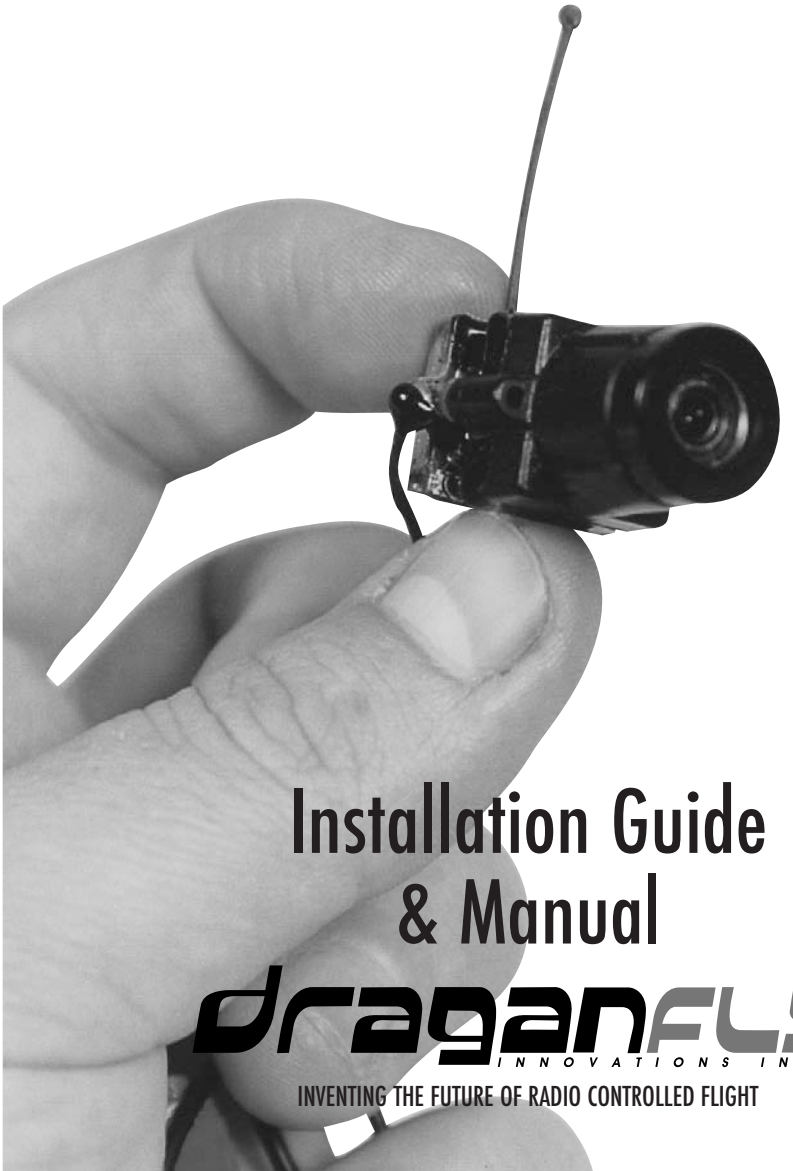
Eyecam

2.4GHz Wireless
Ultra Miniature Camera System
(Video Only)



Installation Guide & Manual

draganFLY INNOVATIONS INC

INVENTING THE FUTURE OF RADIO CONTROLLED FLIGHT

Eyecam comes with...

- 1 x Eyecam Miniature Colour Camera/Transmitter
- 1 x Receiver
- 1 x AA battery pack
- 1 x 9v battery snap
- 1 x Mains Power Adapter (4.5v for use with Eyecam)
- 1 x Mains Power Adapter (12v for use with Receiver)
- 1 x RCA Cable
- 1 x Articulating Camera Mount
- This Instruction Sheet

If any of these items are missing, please contact your retailer.

Things you should know about Eyecam

- **EYECAM TRANSMITTER SENDS VIDEO ONLY – IT HAS NO AUDIO TRANSMISSION CAPABILITY**
- Best Results are achieved where there is a clear "line of sight" between the Eyecam transmitter and Receiver
- Try to avoid obstacles such as trees, walls, cars, trucks, and buildings.
- Transmitting over water and in rain will reduce performance.
- Interference from certain electronic equipment or the moving human body can also affect the range obtainable.
- For best reception, position the antennas of the transmitter and receiver 1.5 to 2m above the ground. Please test all devices before final installation because transmission quality can often be improved by moving the components slightly.
- Turn off the transmitter and receiver if the system is not in use.
- Do not touch the antennas when the system is switched on.
- Do not place the receiver behind a monitor or TV.

Installing Eyecam

The Eyecam features an omni-directional antenna which is most effective when used in the UPRIGHT position.

1) Connect both the Eyecam and the Receiver to their respective power supplies.

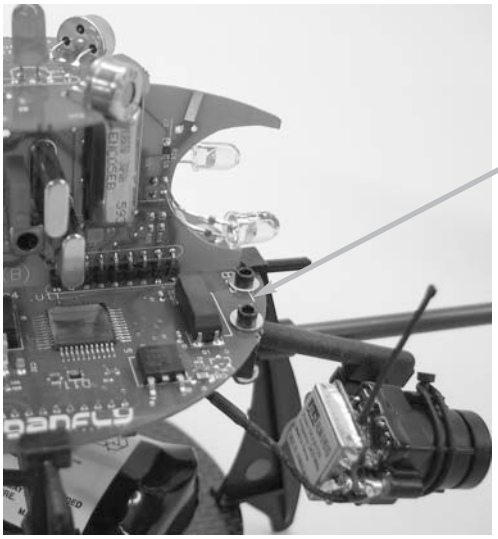
   ***IMPORTANT: Eyecam uses 4.5v power supply, receiver uses 12v power supply**

2) Connect the receiver to the equipment you wish to transmit to (monitor, TV, VCD, video camera, etc.). *see diagram on following page*

3) After connecting both the Eyecam and the Receiver, obtain the best picture by adjusting the position of the Eyecam and Receiver unit to suit. Try slightly different locations of either unit for optimum results.

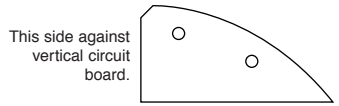
Direct the antenna of the receiver toward the antenna of the Eyecam. The integrated antenna inside the Receiver is located at the opposite end to the connectors.

Articulating Camera Mount

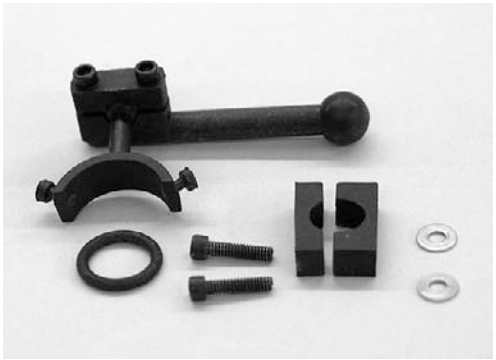


To install your articulating Eyecam mount you will need a 3/32 or .093 drill bit. Simply place the supplied template along the front of the circuit board budding up to the left side of the circuit board. Please see arrow.

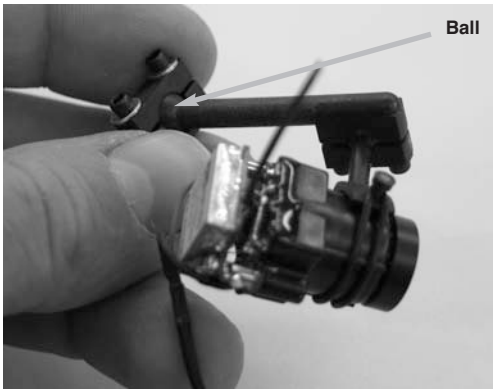
Cut the template out with scissors and lay it where the arrow points. Use this as a guide to drill your holes. This articulating camera mount can also be used for the Vortex Extreme and Super Aviator airplanes. We suggest using the 9v adapter for the camera and placing the 9v battery inside the fuselage with velcro.



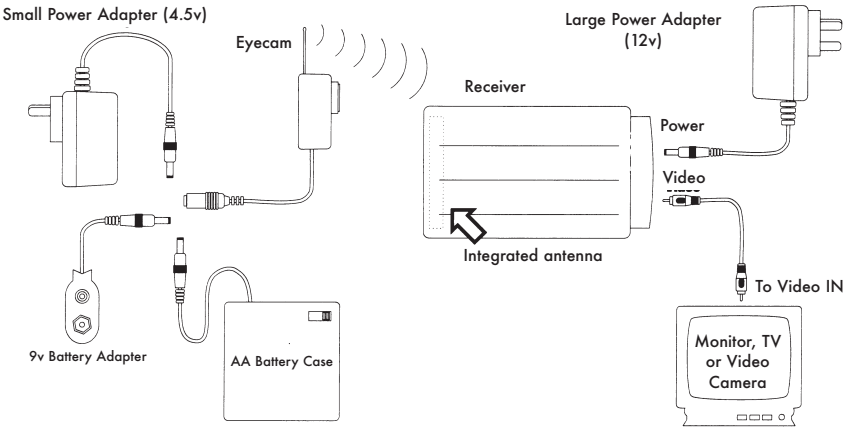
Template to use



These are the pieces that make up the Articulating Eyecam Mount. Use a 2/56 allen key to tighten the bolts. Place the two 2/56 bolts through the holes of the circuit board or side of airplane fuselage then place the smaller concave plastic piece at the bottom of the circuit board and then set the larger concave piece on top of the smaller concave plastic piece and proceed to tighten the screws one turn.



Insert the ball between the two pieces and tighten until the arm is solid (this can be adjusted so you can angle the camera to your liking). Do not over tighten.



Important!

To avoid the risk of damage to Eyecam, use only the supplied power supply.

Don't place above or near a heat source which may cause the equipment to overheat.

Avoid "Oily" locations.

Microwave ovens can cause interference and diminish the quality of the signal if the Eyecam or Receiver are located close by.

Beware of humid locations. Water droplets or spray may damage the units. If condensation does occur, do not use until the equipment has dried out.

Do not use in temperatures exceeding 55°C.

Never paint or attach metallic labels or stickers of any kind.

Do not cut the DC power cable of the Eyecam to fit with another power source. This may result in damage to the Eyecam and will void warranty.

Tips for Shooting Video

When you shoot video with the Draganflyer V Ti remember the range of the video camera transmitter is limited to about 750-1000 feet, but you should not be that far apart because the signal strength decreases with distance. Metal objects and other transmitters or noisy electrical circuits and motors may also interfere with the signal. The receiver works best if it is above the ground as much as possible and in direct line of sight with the transmitter. Some break-up and noise is inevitable; you will not get perfect footage. Don't forget that even multimillion-dollar communications systems can be interfered with.

When we shot our videos we had a pilot flying and a director/helper aiming the receiver and coaching the pilot about which shots from the Draganflyer V Ti looked the best. The lens on the video camera has a fixed focal length, which means if you want a close up of an object you have to fly close to it or move back for a wide shot. The director/helper can be most useful by telling the pilot if the target is in the shot and what

Tips for Shooting Video continued

to do to make the shot better. After awhile the pilot can get a feel for positioning the Draganflyer V Ti for a shot but it takes practice. The camcorder we used had an LCD screen so we were able to do the establishing shots of the Draganflyer V Ti from the pilot's point of view and then connect the video receiver from the onboard camera to the camcorder without using a separate monitor. This arrangement is convenient and mobile.

Don't try to get all your shots on one flight. Better to get one good shot per flight than lots of crummy ones. Radical moves look good from the observer's perspective but from the onboard camera they mostly make the audience want to reach for a barf bag! Save the killer moves for when they will impress Mr. Lucas and Mr. Spielberg!!!

Technical Specifications

PLEASE NOTE: EYECAM DOES NOT CURRENTLY INCLUDE AN AUDIO FEATURE

Eyecam 2.4GHz Transmitter

One Channel:	2.4GHz Frequency band
RF output power:	EC R&TTE Compliant
Operating power:	DC4.8-7.2V, regulated
Power consumption:	100mA
Size:	15x22x32mm
Antenna:	Omni-directional
Transmitting Range:	300M (Line-of-sight)
Weight:	16 grams
Temperature:	-10 to +50ºC

Eyecam CMOS Colour Camera

Pixels:	365K (PAL), 250 (NTSC)
Resolution:	Horizontal 380 TV lines
Auto Electronic Exposure:	1/60 - 1/15000 sec.
Automatic Exposure / Gain / White balance.	
Minimum Illumination:	<3 Lux@ f1.2
Signal to Noise Ratio:	>48dB
Board Lens:	3.66mm/view angle: 92
Field Angle:	92 degrees
Size:	15 x 15 mm, board lens

Eyecam Receiver

Frequency:	2.4GHz frequency band
Video input/output:	1V p - p /75 ohm
Audio input/output:	0.8V / 600 ohm
Antenna:	60 degree directional
Audio Bandwidth:	50 - 17000 Hz
Operating Power:	DC 12V, regulated
Power Consumption:	180mA
Size:	150 x 88 x 40 mm

Troubleshooting

Poor Picture: Realign antennas, slightly adjust the position of the Eyecam or Receiver. Reduce or increase the distance between Eyecam or Receiver.

Line only - no picture: Check to confirm there is no microwave oven or other 2.4GHz equipment operating close by.

Picture ghosting: Check for interference caused by obstacles such as trees, buildings and shrubs etc. Try a different location for the Eyecam/Receiver.

No picture: check the receiver to confirm it is turned ON and make sure the A/V connection of the Receiver is not plugged the wrong way around.

Draganflyer V Ti Parts List

Draganflyer V Ti parts list	**Price (USD)**
Draganflyer Rotors (set of 4 with decal sheet)	28.95
Draganflyer Crash kit (rotor set, 2 motor mounts, 2 carbon tubes,1 canopy, 1 riser)	47.89
Draganflyer Motor mount	5.95
1 set of Draganflyer Heavy Duty Aluminum Heat Sinks	14.95
Replacement Draganflyer Carbon fiber rod	3.95
Draganflyer V Ti Canopy	14.95
Draganflyer 3-cell 11.1 volt 1300mAh Li-Poly battery with protection circuitry	69.95
Draganflyer 3-cell 11.1 volt 1900mAh Li-Poly battery with protection circuitry	99.95
Draganflyer 12ft Tether cord	24.95
Replacement Draganflyer frame (does not include motors,main gears, or bearings)	79.95
Draganflyer Main gear	7.95
Draganflyer Main gear bearing	4.95
Draganflyer Nylon rotor screw set (set of 8)	2.95
Draganflyer Rotor Decal sheet	3.95
Draganflyer Vertical riser	5.95
Draganflyer Center cross piece	7.95
AC Digital Charger with Power Supply (charges 3 cells Lithium-Polymer and transmitter)	69.95
Draganflyer Main wire harness	12.95
Draganflyer Carbon fiber base plate	14.95
Draganflyer Complete screw set (includes all screws)	9.95
Draganflyer Motor (capacitor and pinion gear factory installed)	12.95
Draganflyer Fully Articulating Eyecam mount	19.95
Replacement Draganflyer circuit board	399.95
Replacement Draganflyer circuit board antenna	2.95
Replacement Draganflyer circuit board power switch	5.95
Replacement 4 channel FM transmitter	89.95
Replacement 6 channel FM Transmitter	139.95
Eyecam 2.4GHz color video camera	249.95
Draganflyer Motor Capacitor (10nF, 100V)	0.50
10 amp fuse for Draganflyer V Ti circuit board	1.95
Rubber ‘o’ ring for Draganflyer Camera Mount	0.50
Draganfly Innovations ball cap	9.95
Draganfly Innovations frisbee	2.95
Draganfly Innovations T-shirt (S, M, L, XL)	14.95

For detailed descriptions of all parts or to order these parts online please visit us at:
www.rctoys.com/parts

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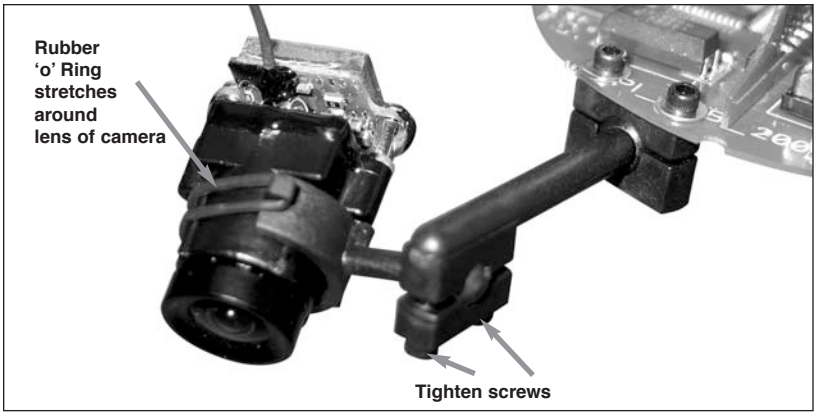

Notes

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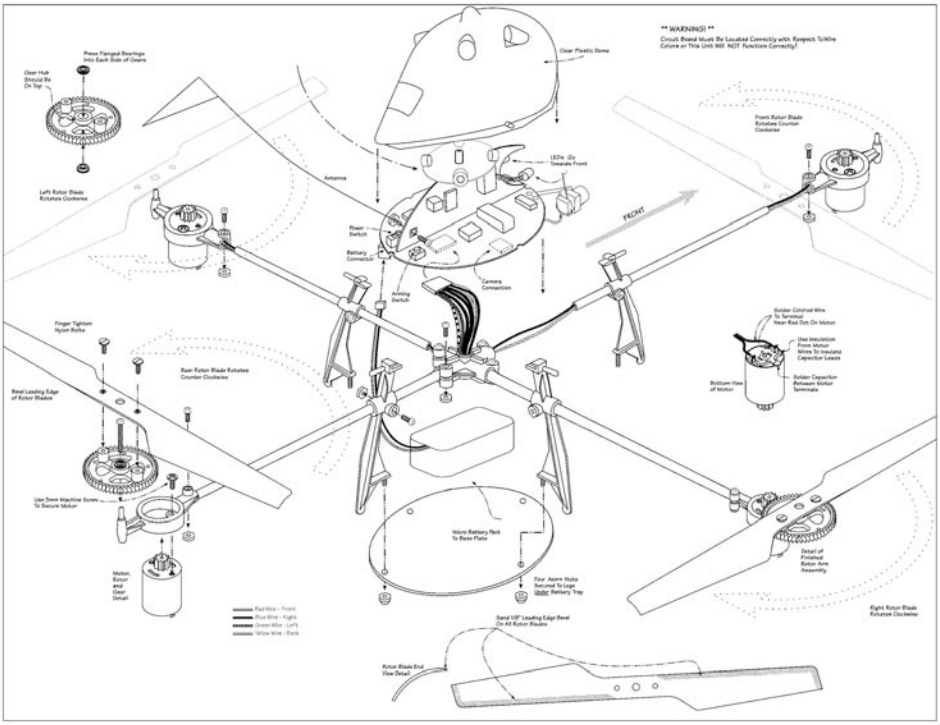
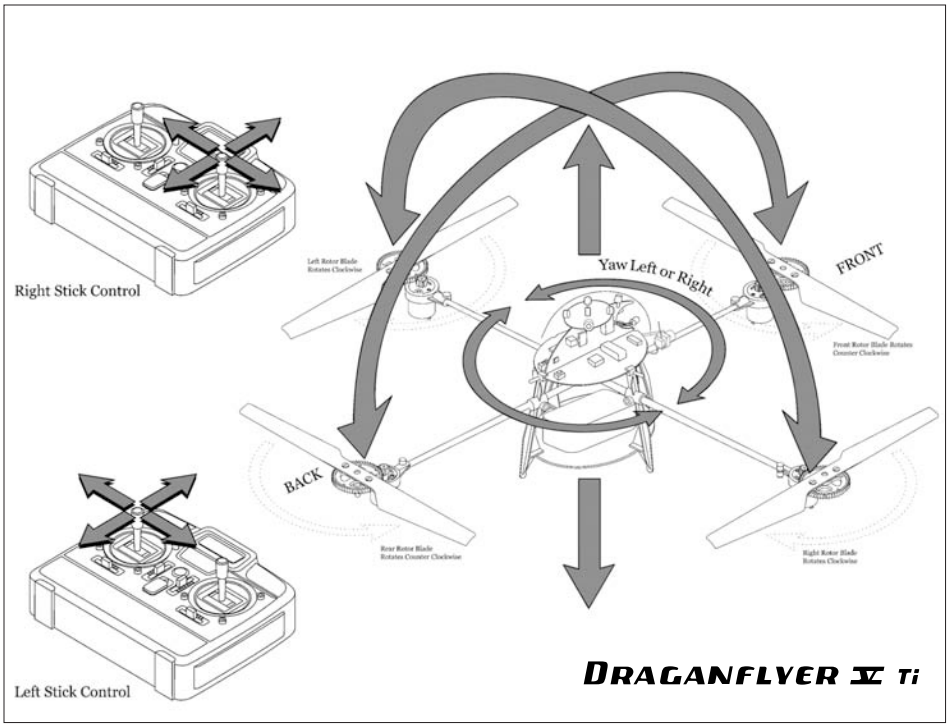
2108A ST. GEORGE AVE SASKATOON SK CANADA


** WARNING! **
Circuit Board Must Be Located Correctly with Respect To Wire Colors or This Unit Will NOT Function Correctly!
Press Flanged Bearings Into Each Side of Gears
Gear Hub Should Be On Top
Left Rotor Blade Rotates Clockwise
Clear Plastic Dome
LEDs Go Towards Front
Antenna
Power Switch
Battery Connector
Arming Switch
Camera Connection
FRONT
Front Rotor Blade Rotates Counter Clockwise
Finger Tightem Nylon Bolts
Rear Rotor Blade Rotates Counter Clockwise
Bevel Leading Edge of Rotor Blades
Use 3mm Machine Screw To Secure Motor
Motor, Rotor and Gear Detail
Velcro Battery Pack To Base Plate
Four Acorn Nuts Secured To Legs Under Battery Tray
Solder Colored Wire To Terminal Near Red Dot On Motor
Use Insulation From Motor Wires To Insulate Capacitor Leads
Solder Capacitor Between Motor Terminals
Bottom View of Motor
Detail of Finished Rotor Arm Assembly
Right Rotor Blade Rotates Clockwise
Red Wire - Front
Blue Wire - Right
Green Wire - Left
Yellow Wire - Back
Sand 1/8" Leading Edge Bevel On All Rotor Blades
Rotor Blade End View Detail


Right Stick Control
Yaw Left or Right
FRONT
Left Rotor Blade Rotates Clockwise
Front Rotor Blade Rotates Counter Clockwise
BACK
Rear Rotor Blade Rotates Counter Clockwise
Right Rotor Blade Rotates Clockwise
Left Stick Control
DRAGANFLYER V Ti